

S E C R E T

P-319

26 February 1959

MEMORANDUM FOR: Technical Requirements Board

SUBJECT : Development of drop zone beacon

1. It is recommended that the Technical Requirements Board:

a. Accept the requirement: To develop a drop zone location system.

b. Place this requirement on the Office of Communications for action, in cooperation with the Technical Services Staff, with a target date for a report or for working models of equipment to be 27 May 1959.

2. Problem: At its 28 January 1959 meeting, the Board decided that a specific requirement for a drop zone location system to meet the particular needs of the Clandestine Services should be prepared, and should be considered separately from the matter of reaching an agreement on a compatible beacon system for inter-service or joint United States use. The immediate problem then is to achieve an effective beacon system for use by the Clandestine Services in the shortest possible time.

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3. At present there is no equipment available that is usable on Helio Courier planes or ready for use on any other planes available to the Agency.

4. Special features: As a result of meetings of the In-Exfiltration Panel on 7 and 19 February attended by representatives of OC, Air Division, and TSS, the principal goals for a beacon system are:

a. Characteristics of the system:

1. Guide an aircraft of the Helio type or larger at an altitude of 200-300 feet from a distance of 15 miles.
2. Transmit a minimum amount of signal consistent with the success of the mission, with the major emphasis placed on accuracy.
3. Operate without visual reference to the ground.

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4. Reasonably free of local interference or enemy jamming.

b. Airborne equipment requirements:

1. Weight not over 50 pounds.
2. Minimal signal emission from aircraft consistent with obtaining an accuracy of 10% in residual range and 50 feet in azimuth over the DZ marker.
3. Visual signal to crew members to include range and azimuth.
4. High reliability.

c. Ground equipment requirements.

1. Readily carried by one person.



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3. Weight under 10 pounds.
4. If a power source is required, it should have a shelf life of at least six months or be rechargeable by a hand generator, solar or thermo-couple chargers. It should operate the equipment continuously for at least 10 hours.
5. Limited emission consistent with range requirements.
6. Adaptable to hot, cold, humid climate.
7. Simple to erect and operate.
8. High degree of reliability and accuracy.
9. Should meet CIA standards of sterility.
10. Voice transmission is an optional requirement, but a simple system of coding would be desirable in order to maintain a limited secure contact between the ground and the crew.

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5. Feasibility: The above-listed goals are considered feasible. OC will at once inform the Board should it find that any feature listed in para 4 threatens to delay the possible realization of an otherwise acceptable system.

6. Interim requirement: FE Division needs a ground-air beacon locator of any type for long range, high altitude approaches by standard United States commercial planes. OC believes this need can be fulfilled in 30 days.

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Secretary
Technical Requirements Board

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